



ANALYTIC STUDY OF 1500 CASES OF INGUINAL HERNIA IN A TEACHING INSTITUTION

General Surgery

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ABSTRACT

Background : Numerous techniques are used for inguinal hernia repair. These techniques can be divided into two main categories depending on whether or not a mesh is used.

Aims: The purpose of this study is to assess the clinical long-term result of these hernia repair techniques including meshplasty and modified Bassini's repair (anatomical repair).

Material and Method : A study of 1500 cases was conducted, out of which 90.26% cases were operated using prolene mesh fixed with interrupted prolene 1-0 suture and 16.4% cases operated with modified Bassini's repair by using interrupted prolene 1-0 with conjoint tendon and upturned part of inguinal ligament.

Result: The mean operative time was 30 minutes in both groups. Post operative complication, mainly hematoma and seroma occurs in 14.3% in meshplasty and 13% in modified Bassini's repair. In both groups recurrence rate is very less. However modified Bassini's has advantage over meshplasty when cost of the mesh and suture material used were compared, other factors being similar.

Conclusion : Meshplasty is definitely more popular procedure being in used but in India, where cost factor still plays a part modified Bassini's repair is equally effective.

KEYWORDS

Modified Bassini's repair, Inguinal hernia, Meshplasty, Polypropylene mesh.

INTRODUCTION

Inguinal hernia repair, which accounts for 10-15% of all Surgical Procedures, while in our centre it accounts about 30% of all surgical procedures. Through this study, we tried to evaluate indication, pre and peri-operative factors and post-operative complication of hernia repair by two separate technique of surgery.

MATERIALS AND METHODS

A 5 year study of a 1500 Hernia repairs was done from Jan 2012 to 2017. In all, 1354(90.26%) cases were operated with meshplasty and 246(16.4%) cases operated by modified Bassini's repair. The data and details of patients were collected from case files and operative registers. For follow up self addressed response, and personal questionnaires were used. We've included 2 techniques for hernia repair.

All patients received a single dose of Inj ampicillin – cloxacillin (1gm) at the onset of anesthesia. Most of them were operated under spinal anesthesia. In few cases local and General Anesthesia were also used. In local anesthesia, we've used mixture of 2% lignocaine and 0.5% sensorcaine for nerve block and field block.

A Langer's line was used for skin incision. We cut skin, subcutaneous and external oblique-aponeurosis. With peanut swab and finger we made plane above conjoint tendon and inguinal ligament. The cremasteric fascia was incised which helped the easy mobilization of cord structures. A direct sac pushed back and an indirect sac was opened and transected at its neck after ligation.

In meshplasty, a trimmed polypropylene mesh (6 x 6 cm) with lateral slit to accommodate the spermatic cord was used. Mesh was fixed to pubic tubercle, superiorly above the conjoint tendon, and inferiorly upturned part of inguinal ligament with the use of interrupted stitches of prolene (1-0). The lateral slit looks like "fish – mouth" which encircled cord structures at internal ring and this mouth is sutured with interrupted prolene (1-0) making sure that the cord was not constricted and thus we made a new internal ring.

In modified Bassini's group, a (1-0) prolene suture was used to reconstruct posterior wall of inguinal canal. We made interrupted stitches between fleshy part of conjoint tendon and upturned part of inguinal ligament. We have taken 1st stitch over pubic tubercle to

prevent recurrence. In some cases we made tenner's slit over conjoint tendon to prevent tension over suture line.

In both groups, after meticulous hemostasis and after safeguarding iliohypogastric nerve and the cord structures, the external oblique aponeurosis was closed with (1-0) continuous prolene sutures. The skin was closed with interrupted monofilament.

Operative time taken from skin incision to skin closure was recorded in all cases of both groups.

Post operatively, patients of both groups were routinely given injectable antibiotics and analgesic for one day and then oral drugs for 5 days. Patients were discharged after 4-5 days and stitch removal after 7-8 days.

In follow up during 7th day, 1, 6, 12, 18, 24 months. We maintained records of pain, early and late complications like Hematoma – Seroma, wall sepsis, infection and recurrence rate.

RESULTS

- A series of 1500 consecutive patients operated for Hernia between 2012-2017.
- PATIENT'S DETAILS: In our study, 1466(97.33%) were male and 34(2.26%) were female.
- There was 872(58.13%) direct hernias and 798(53.21%) indirect hernias.
- We studied 1044(69.6%) unilateral, 466(31.06%) bilateral, 14(0.93%) strangulated and 16(1.06%) recurrence cases.
- Age of patients were between 17 to 80 years, but high incidence in age between age 36-55 years
- In study of precipitating factors of hernia there were 174(11.6%) cases due to chronic cough, 497(33.13%) due to ageing, 294(19.6%) due to urinary problems like BPH, Ureteral stricture, 4(0.26%) due to post – appendicectomy, 213(14.2%) due to occupational cause like heavy work lifting and in 314(21.2%), there was non-specific cause identified.

PERIOPERATIVE DATA:

- Meshplasty is used in (90.26%)1394 and modified Bassini's repair is used in 246(16.4) cases.
- Spinal anaesthesia used in 1458(97.2%) cases, whereas

- 34(2.26%) were operated under local and 8(0.53%) under general anesthesia.
- Mean operative time were 30 min in both study
 - Mean hospitalization time was 4-5 days in each cases.

COMPLICATION :

In post operative complications we have seen Hematoma-Seroma in 20.8%, Wall Sepsis in 9.86%, Secondary pain in 5.86%, Recurrence in 0.2%. There is insignificant difference of complications in two different study.

COST :

The suture material's cost per patient in the modified Bassini's repair series was Rs.300-400, while that recorded for per patient in the Meshplasty series was Rs.1800- 1900.

Table 1: Sex Distribution:

SEX	N(%)
Male	1466 (97.33%)
Female	34 (2.26%)

Table2: Indication:

Indication	No(%)
Direct Hernia	872(58.13%)
Indirect Hernia	798(53.21%)
Unilateral Hernia	1044(69.6%)
Bilateral Hernia	466(31.06%)
Recurrent Hernia	16(1.06%)
Strangulated Hernia	14(0.93%)

Table 3: Age Distribution : Between 15 to 80 years

15-25	26-35	36-45	46-55	56-65	66-80
108	246	372	398	265	111

Table 4: Study of Precipitating Factors:

Chronic cough	174(11.6%)
Ageing	497(33.13%)
Urinary(BPH,Urethral stricture)	294(19.6%)
Post Appendicectomy	4(0.26%)
Occupational (Heavy work lifting)-	213(14.2%)
Non specific reason	318(21.2%)

Table 5: Perioperative Data:

Surgical Techniques	N or %
Meshplasty	1354(90.26%)
Modified Bassini's repair	246(16.4%)

Anesthesia :	N or %
Spinal	1458(97.2%)
Local	34(2.26%)
General	8(0.53%)

Mean operative time: In both cases 30 minutes.

Hospitalization: In both cases 4-5 days.

Table 6: Complications:

Immediate Complication	Meshplasty	Modified Basini's repair	Total
Hematoma – seroma	264(19.49%)	48 (19.5%)	312(20.8%)
Wall sepsis	125(9.23%)	23(9.34%)	148(9.86%)
Infection	0	0	0
Testicular atrophy	0	0	0
Late Complication			
Secondary pain	74(5.46%)	14(5.69%)	88(5.86%)
Recurrence	2(0.2%)	1(0.40%)	3(0.21%)
Mesh sepsis	0	0	0

DISCUSSION

In this series, Hernia is a common disease in male age between 36-55

years with main precipitating cause being ageing . Convenient choice for anesthesia is spinal anesthesia and in both surgical techniques mean operative time and hospitalization were minimal. Complication like seroma – hematoma is most common while rate of recurrence were minimal in both techniques. In our opinion, our only limitation is the absence a truly long follow up period i.e. 10-15 years.

CONCLUSION

The meshplasty and modified bassini's repair describe in this study seemed easy, safe and effective. Meshplasty for inguinal hernia is definitely the more popular used technique but well constructed modified bassini's is equally effective and much less costly treatment option for inguinal hernia repair. And also we recommend long term study to judge efficacy of both techniques in terms of recurrence and cost effectiveness.

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